

AbstractID: 12966 Title: Post implant dosimetry for I 125 and Pd 103 anchor and non anchor seeds

**Purpose:** The purpose of this study is to investigate if there is a significant difference between the post implant dosimetry of the anchor and non anchor seeds for both I-125 and Pd-103.

**Method and Materials:** The post implant plans of 40 patients treated during 2008 – 2009 in our institution were analyzed. 10 patients were treated for each of the following seeds; I-125 anchor seeds I-125 non-anchor seeds (BrachySciences, Inc. Oxford, CT), Pd-103 anchor seeds (BrachySciences, Inc. Oxford, CT) and Pd-103 non anchor seeds (Theragenics Corporation® Buford, GA). Advantage I-125™ Seed (Model IAI-125A) and Theraseed Pd-103™ Seed (Model 200) were the seed models used for I-125 and Pd-103 respectively. Besides having a ribbed structure, the anchor seeds are encapsulated with a bioabsorbable polymer which is designed to help aid fixity (see figure 1).

The preplan criteria for all implants were the same. All seeds were loose seeds implanted using a Mick applicator. A seed localizing scan was acquired 30 days post the implant. Dose levels that cover 100% (D100) and 90% (D90) of prostate were determined. In addition, the fraction of the prostate volume receiving 200% (V200), 150% (V150), 100% (V100) of the prescribed dose were also evaluated.

**Results:** The differences in D100, D90, V100, V150 and V200 for the patients in this study for the anchor and non-anchor seeds for both I-125 and Pd-103 are statistically insignificant. It may be possible that if different dosimetric quality indicators are studied then a difference may be more visible.

**Conclusion:** We did not observe a statistically significant dose difference in the post implant dosimetry between the anchor and non – anchor seeds for the patients included in this study. Future works on sector analysis may be able to provide more information on differences resulted from using anchor seeds.